

UNITED STATES PATENT OFFICE.

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IMPULSE-STARTER LOCK.

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To all whom it may concern:

Be it known that we, JOSEPH A. WILLIAMS and ALBERT G. KARKAU, citizens of the United States, and residents, respectively, of Cleveland, in the county of Cuyahoga and State of Ohio, and Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Impulse-Starter Locks, of which the following is a full, clear, and exact description.

This invention relates to impulse starters for magnetos, and especially to an improved form of lock for the impulse starter catch.

Impulse starters commonly in use at the present time employ a pivoted catch which during normal operation is held in inoperative position, but for starting purposes is dropped inward to a position such that it may engage a shoulder on a member connected to the magneto rotor so as to hold the rotor against movement while the driving shaft is being turned through a portion of a revolution, after which a cam which turns with the drive shaft knocks the catch out of engagement with the shoulder so as to permit a spring to give the magneto armature a quick forward impulse so as to create a spark for starting purposes.

It is customary also to provide a lock for the catch, the function of which is to hold the catch in inoperative position during normal operation. Frequently this lock is in the form of a pivoted finger so disposed that when the catch is thrown outwardly with predetermined force by the cam, a pointed or undercut part of the catch will snap over a pointed or tapered nose of the locking finger and the latter will then normally prevent its return to operative position until it is manually actuated so as to release the catch.

While the form of lock above explained generally gives very good results, it has the objection that it is possible that the catch will not fully engage the locking finger, in which event, due to vibration it may fall into engagement with the rapidly rotating shouldered part of the impulse starter beneath it, in which event breakage will occur. Furthermore, in an impulse starter having a lock of this type, the catch falls by gravity when it is manually released, and at times it may not drop to operative position

especially if the bearings of the catch should have a film of oil causing a sticking tendency.

The principal object of the present invention is to provide a lock which acts positively to hold the catch either in operative or in inoperative position, and which cannot possibly hold it in an intermediate position from which it may be moved by vibration in either direction; that is to say, it is the principal object of the invention to provide a lock of a nature such that when the catch is thrown outward by the cam on the rotating part of the impulse starter it cannot be stopped and held in a position such that it can accidentally drop back to operative or working position.

Still further the invention aims to provide a lock of such a nature that access can be had to it from the outside of the housing to positively move the catch either to operative or inoperative position.

The invention may be briefly summarized as consisting in certain novel details of construction, and combinations and arrangements of parts which will be described in the specification and set forth in the appended claims.

In the accompanying sheet of drawings, Fig. 1 is a face view of an impulse starter embodying our improvement, the cover of the starter housing being removed and certain parts being in section; Fig. 2 is a vertical sectional view of the same, both Figs. 1 and 2 showing conventionally a portion of the magneto with which the starter is adapted to be associated; Fig. 3 is a view similar to Fig. 1, but showing only a portion of the impulse starter with the catch held in inoperative position; Fig. 4 is a sectional view substantially along the line 4-4 of Fig. 1, looking in the direction indicated by the arrows; and Fig. 5 shows the catch and locking bar in a slightly modified form.

Any suitable magneto may be employed with the impulse starter, the magneto being indicated at 10 in Figs. 1 and 2. Likewise the impulse starter with the exception of the catch lock may have any suitable construction, but in this case it is of the type illustrated in the Karkau Patent No. 1,264,086, granted April 23, 1918, that is to say, the impulse starter includes an inner part 11 which is fixed to the magneto shaft, and